

A list of the genus *Eurema* (Pieridae) collected
in the Santa Marta Mountains and its
vicinity, Colombia, South America

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Una lista del género *Eurema*, Pieridae, coleccionado en Sierra
Nevada de Santa Marta y su vecinidad, Colombia,
América del Sur

The genus *Eurema* is distributed mainly in the tropical region of the world, and about 50 species of that genus are found in the New World, from North to South America. The author reports a list of *Eurema* collected in the Santa Marta Mountains (Sierra Nevada de Santa Marta) and its vicinity, the northern part of Colombia, South America, by the 1st Scientific Expedition of Shizuoka University to the Colombian Andes, 1967. The specimens have been preserved in the collection of Faculty of Science, Shizuoka University.

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1. *Eurema proterpia proterpia* FABRICIUS

1♀, near Juan Mina, Atlántico, 11. vi, coll. T. SUGIMOTO; 1♂1♀, near Juan Mina, Atlántico, 14. vi, coll. M. TAKAHASHI; 1♂, Caracoli~Aguas Blancas, Magdalena, 6. viii, coll. M. TAKAHASHI; 1♂, El Carmen, Río Piedras, Magdalena, 25. viii, coll. M. TAKAHASHI.

The species *E. proterpia* is seen in pastures and dry fields with cactaceous plants, around the SMM (Santa Marta Mountains).

2. *Eurema gundlachia* POEY

2♀♀, near Juan Mina, Atlántico, 11. vi, coll. T. SUGIMOTO; 1♂, near Juan Mina, Atlántico, 14. vi, coll. T. SUGIMOTO.

The species *E. gundlachia* is seen in pastures and dry fields in the tropical area accompanied with *E. proterpia proterpia*.

3. *Eurema xanthochlora xanthochlora* KOLLAR

1♂, Minca~Mirasol, Magdalena, 10. vii, coll. T. SUGIMOTO; 1♂1♀, San Lorenzo, Magdalena, 11. vii, coll. M. TAKAHASHI; 1♂1♀, San Lorenzo, Magdalena, 15. vii, coll. T. SUGIMOTO.

The species *E. xanthochlora* was found in the forestside of mountainous zone on the north-western slope of the SMM.

4. *Eurema mexicana bogotana* FELDER

1♂, Chemesquemena~Donachúi, Magdalena, 26. vi, coll. T. SUGIMOTO; 3♂♂, Donachúi, Magdalena, 27. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 1♂2♀♀, Donachúi, Magdalena, 28. vi, coll. T. SUGIMOTO; 1♀, Donachúi, Magdalena, 2. vii, coll. T. SUGIMOTO; 1♂, Donachúi, Magdalena, 3. vii, coll. T. SUGIMOTO; 1♂, Donachúi~Sogrome, Magdalena, 28. vi, coll. M. TAKAHASHI; 1♂, Donachúi~Sogrome, Magdalena, 2. vii, coll. M. TAKAHASHI.

The species *E. mexicana* was found only in the Donachúi district, the south-eastern slope of the SMM. It is not seen in the tropical area.

5. *Eurema salome* FELDER

2♂♂, Donachúi, Magdalena, 27. vi, coll. T. SUGIMOTO; 7♂♂, Donachúi, Magdalena, 28. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 1♂, Donachúi, Magdalena, 2. vii, coll. T. SUGIMOTO; 3♂♂, Donachúi~Sogrome, Magdalena, 28. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 6♂♂, Donachúi~Sogrome, Magdalena, 2. vii, coll. M. TAKAHASHI; 1♂, Sogrome~Sacaracungüe, Magdalena, 28. vi, coll. M. TAKAHASHI; 3♂♂, Sogrome~Sacaracungüe, Magdalena, 2. vii, coll. M. TAKAHASHI; 1♂, Sacaracungüe~La Nevadita, Magdalena, 28. vi, coll. M. TAKAHASHI; 3♂♂1♀, Sacaracungüe~La Nevadita, Magdalena, 29. vi, coll. M. TAKAHASHI; 1♂1♀, La Nevadita, Río Donachúi, Magdalena, 29. vi, coll. M. TAKAHASHI; 2♂♂, La Nevadita~Melloaca, Magdalena, 29. vi, coll. M. TAKAHASHI; 1♀, Melloaca, the upper stream of Donachúi river, Magdalena, 30. vi, coll. M. TAKAHASHI.

The species *E. salome* was found also in the Donachúi district. It inhabits higher altitude than *E. mexicana bogotana*, even in 3,000 m in altitude, and flies more rapidly than other species of *Eurema*. The author observed many males visiting excrements of animals, and a female laying eggs on leaves of a leguminous plant.

6. *Eurema agave* CRAMER

1♂1♀, Barranquilla, Atlántico, 5. vi, coll. T. SUGIMOTO & M. TAKAHASHI.

The species *E. agave* was found only in the dry waste land of Barranquilla, accompanied with *E. gratioiosa* and *E. venusta limbia*.

7. *Eurema albula* CRAMER

4♂♂1♀, Chemesquemena, Río Guatapuri, Magdalena, 8. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 1♂, Donachúi, Magdalena, 27. vi, coll. M. TAKAHASHI; 1♀, Donachúi, Magdalena, 2. vii, coll. T. SUGIMOTO; 5♂♂1♀, La Esmeralda, Río Piedras, Magdalena, 28. vii, coll. M. TAKAHASHI; 2♂♂, Río Mendiquaca, Magdalena, 29. vii, coll. M. TAKAHASHI; 1♂, Quebrada Manzanares, Río Piedras, Magdalena, 31. vii, coll. M. TAKAHASHI; 2♂♂, Quebrada Constante, Río Piedras, Magdalena, 1. viii, coll. M. TAKAHASHI; 1♂, Quebrada Cinto, near Río Piedras, Magdalena, 2. viii, coll. M. TAKAHASHI; 1♂, Quebrada Santa Teresa, Río Piedras, Magdalena, 3. viii, coll. M. TAKAHASHI; 1♂, San Isidro de la Sierra, Río Piedras, Magdalena, 23. viii, coll. M. TAKAHASHI; 1♂, El Mico, Magdalena, 5. ix, coll. M. TAKAHASHI.

The species *E. albula* inhabits the forest and forestside of the tropical area, but rare in the open field.

8. *Eurema phiale phiale* CRAMER

3♂♂, Chemesquemena, Río Guatapuri, Magdalena, 8. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 2♂♂, Chemesquemena, Río Guatapuri, Magdalena, 25. vi, coll. M. TAKAHASHI; 1♂1♀, Chemesquemena~Donachúi, Magdalena, 26. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 4♂♂2♀♀, Donachúi, Magdalena, 27. vi, coll. M. TAKAHASHI; 1♀, Donachúi, Magdalena, 28. vi, coll. T. SUGIMOTO; 1♂1♀, Donachúi~Sogrome, Magdalena, 28. vi, coll. M. TAKAHASHI; 1♀, Donachúi~Sogrome, Magdalena, 2. vii, coll. M. TAKAHASHI.

The species *E. phiale* was commonly found in the Donachúi district, accompanied with *E. mexicana bogotana*. It inhabits the sunny forestside.

9. *Eurema gratioiosa* DOUBLEDAY & HEWITSON

1♂, Barranquilla, Atlántico, 2. vi, coll. T. SUGIMOTO; 1♀, Barranquilla, Atlántico, 4. vi, coll. M. TAKAHASHI; 1♀, Barranquilla, Atlántico, 6. vi, coll. T. SUGIMOTO; 2♂♂, Chemesquemena, Río Guatapuri, Magdalena, 8. vi, coll. M. TAKAHASHI; 1♀, Chemesquemena~Donachúi, Magdalena, 26. vi, coll. M. TAKAHASHI; 1♀, Donachúi, Magdalena, 28. vi, coll. T. SUGIMOTO; 1♀, Jeréz del Río, Guajira, 21. vii, coll. M. TAKAHASHI; 1♀, San Isidro de la Sierra, Río Piedras, Magdalena, 23. viii, coll. M. TAKAHASHI.

The species *E. gratioiosa* was commonly found in the field and pastures of the tropical area, usually accompanied with *E. venusta limbia*.

Table 1. Collected numbers of *Eurema* in each locality

region locality species	north- ern foot of SMM P D - MD	n-west- ern slope of SMM MN - SL	western slope of SMM MC	the south-eastern slope of the Santa Marta Mountains							the vicinity of the SMM			num- ber of indi- vid- uals
				A T	CH	D-SG	S G - S C	S C -N	N-ML	ML	BQ- JM-PC	C R	A S - J R	
altitude (m)	50~550	650~ 1500	500~ 700	750	1150~ 1500	1300~ 1600	1600~ 1900	1900~ 2150	2460~ 2800	2800~ 3300	0~100	100~ 150	20~50	
<i>E. proterpia proterpia</i>	1	—	—	—	—	—	—	—	—	—	3	1	—	5
<i>E. gundlachia</i>	—	—	—	—	—	—	—	—	—	—	3	—	—	3
<i>E. xanthochlora xanthochlora</i>	—	5	—	—	—	10	—	—	—	—	—	—	—	5
<i>E. mexicana bogotana</i>	—	—	—	—	1	19	4	5	1	—	—	—	—	11
<i>E. salome</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	33
<i>E. agave</i>	14	—	1	—	5	2	—	—	—	—	2	—	—	2
<i>E. albula</i>	—	—	—	—	7	10	—	—	—	—	—	—	—	22
<i>E. phiale phiale</i>	—	—	—	—	3	1	—	—	—	—	—	—	—	17
<i>E. gratioiosa</i>	1	—	—	—	1	4	—	—	—	—	3	—	1	9
<i>E. venusta limbica</i>	—	1	1	—	1	—	—	—	—	—	14	—	1	22
<i>E. leuce</i>	2	—	—	1	—	—	—	—	—	—	1	—	—	4
<i>E. daira</i>	—	—	—	—	—	—	—	—	—	—	6	—	—	6
<i>E. elathea</i>	—	—	—	—	1	—	—	—	—	—	8	—	—	9
numbers of species	4	2	2	1	6	6	1	1	1	1	8	1	2	148 13
P D : Río Piedras	A T : Ataquez			M L : Melloaca			A S : Asunción							
MD : Río Mendiguaca	C H : Chemesquemená			B Q : Barranquilla			J R : Jerez del Río							
MN : Minca	S G : Sogrome			J M : near Juan Mina			D : Donachúi							
S L : San Lorenzo	S C : Sacaracungüe			P C : Puerto Colombia										
MC : El Mico	N : La Nevadita			C R : Caracoli										

10. *Eurema venusta limbica* FELDER

1♂, Barranquilla, Atlántico, 1. vi, coll. T. SUGIMOTO; 2♀♀, Barranquilla, Atlántico, 2. vi, coll. M. TAKAHASHI; 2♂♂3♀♀, Barranquilla, Atlántico, 5. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 1♀, Barranquilla, Atlántico, 6. vi, coll. M. TAKAHASHI; 1♂2♀♀, Barranquilla, Atlántico, 20. vi, coll. T. SUGIMOTO & M. TAKAHASHI; 1♂, Barranquilla, Atlántico, 21. vi, coll. M. TAKAHASHI; 1♀, Barranquilla, Atlántico, 18. vii, coll. M. TAKAHASHI; 1♀, Chemesquemena~Donachúi, Magdalena, 26. vi, coll. T. SUGIMOTO; 2♂♂1♀, Donachúi, Magdalena, 27. vi, coll. M. TAKAHASHI; 1♀, Donachúi~Sogrome, Magdalena, 28. vi, coll. T. SUGIMOTO; 1♀, San Lorenzo, Magdalena, 11. vii, coll. T. SUGIMOTO; 1♀, Asunción, Guajira, 21. vii, coll. M. TAKAHASHI; 1♂, El Mico, Magdalena, 5. ix, coll. M. TAKAHASHI.

The species *E. venusta* is the commonest one of *Eurema* in the fields and pastures of the tropical area.

11. *Eurema leuce* BOISDUVAL

1♀, Barranquilla, Atlántico, 5. vi, coll. M. TAKAHASHI; 1♂, Atanquez, Magdalena, 8. vi, coll. M. TAKAHASHI; 1♀, Quebrada Cinto, near Río Piedras, Magdalena, 2. viii, coll. M. TAKAHASHI; 1♂, San Isidro de la Sierra, Río Piedras, Magdalena, 24. viii, coll. T. SUGIMOTO.

The species *E. leuce* inhabits the sunny forestside of the tropical area, but it was not commonly found.

12. *Eurema daira eugenia* WALLENGREN

2♂♂3♀♀, near Juan Mina, Atlántico, 11. vi, coll. T. SUGIMOTO; 1♂, near Juan Mina, Atlántico, 14. vi, coll. T. SUGIMOTO.

The species *E. daira* was found only in the pasture near Juan Mina, the south-west of Barranquilla, accompanied with *E. proterpia proterpia*, *E. gundlachia* and *E. elathea*.

13. *Eurema elathea* CRAMER

3♂♂3♀♀, near Juan Mina, Atlántico, 11. vi, coll. T. SUGIMOTO; 1♀, near Juan Mina, Atlántico, 14. vi, coll. T. SUGIMOTO; 1♂, Puerto Colombia, Atlántico, 13. vi, coll. T. SUGIMOTO; 1♀, Chemesquemena~Donachúi, Magdalena, 26. vi, coll. M. TAKAHASHI.

The species *E. elathea* inhabits the dry fields and pastures of the tropical area.

Literature

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Resumen

Se publica una lista con los datos y unas notas ecológicas de 13 especies del género *Eurema*, Pieridae, coleccionadas en Sierra Nevada de Santa Marta y su vecinidad, los Departamentos del Magdalena, el Guajira y el Atlántico, Colombia, América del Sur, por la Expedición Científica a los Andes Colombianos de la Universidad de Shizuoka, 1967.

La mayoría de las especies del género *Eurema* se encuentra en las praderas y malezas de la región tropical. Podemos contar al menos 7 especies de este género en estas vegetaciones. Algunas especies, por ejemplo, *E. xanthochlora*, *E. mexicana bogotana*, *E. salome* y *E. phiale phiale* se observan en las zonas montanas subtropicales o templadas. La distribución vertical de *E. salome* alcanza a 3,000 m del nivel del mar. *E. albula* vive principalmente en los bosques húmedos tropicales y sus alrededores, aunque no se encuentra en las praderas y malezas extensas.

Explanation of plates

Plate 1.

- Fig. 1. *Eurema proterpia proterpia* FABRICIUS ♂, El Carmen, 25. viii; FL (Forewing length): 24.4mm.
 Fig. 2. *Eurema proterpia proterpia* FABRICIUS ♀, near Juan Mina, 11. vi; FL: 21.4mm.
 Fig. 3. *Eurema gundlachia* POEY ♀, near Juan Mina, 14. vi; FL: 24.5mm.
 Fig. 4. *Eurema xanthochlora xanthochlora* KOLLAR ♂, San Lorenzo, 15. vii; FL: 26.9mm.
 Fig. 5. *Eurema xanthochlora xanthochlora* KOLLAR ♀, San Lorenzo, 15. vii; FL: 23.9mm.
 Fig. 6. Underside of Fig. 5.
 Fig. 7. *Eurema mexicana bogotana* FELDER ♂, Donachúi, 3. vii; FL: 24.8mm.
 Fig. 8. Underside of Fig. 7.
 Fig. 9. *Eurema mexicana bogotana* FELDER ♀, Donachúi, 2. vii; FL: 23.9mm.
 Fig. 10. *Eurema salome* FELDER ♂, Donachúi, 28. vi; FL: 18.6mm.
 Fig. 11. *Eurema salome* FELDER ♂ (underside), Donachúi~Sogrome, 2. vii; FL: 19.8mm.
 Fig. 12. *Eurema salome* FELDER ♀, La Nevadita, 29. vi; FL: 19.2mm.
 Fig. 13. Underside of Fig. 12.
 Fig. 14. *Eurema agave* CRAMER ♀, Barranquilla, 5. vi; FL: 18.7mm.
 Fig. 15. *Eurema agave* CRAMER ♂, Barranquilla, 5. vi; FL: 17.7mm.

Plate 2.

- Fig. 16. *Eurema albula* CRAMER ♂, Río Mendiguaca, 29. vii; FL: 19.1mm.
 Fig. 17. *Eurema albula* CRAMER ♀, Donachúi, 2. vii; FL: 18.8mm.
 Fig. 18. *Eurema phiale phiale* CRAMER ♂, Donachúi, 27. vi; FL: 17.9mm.
 Fig. 19. *Eurema phiale phiale* CRAMER ♀, Donachúi~Sogrome, 2. vii; FL: 19.5mm.
 Fig. 20. *Eurema gratiosa* DOUBLEDAY & HEWITSON ♂, Chemesquemena, 8. vi; FL: 20.8mm.
 Fig. 21. Underside of Fig. 20.
 Fig. 22. *Eurema gratiosa* DOUBLEDAY & HEWITSON ♀, Chemesquemena~Donachúi, 26. vi; FL: 19.8mm.
 Fig. 23. *Eurema venusta limbia* FELDER ♂, Donachúi, 27. vi; FL: 16.8mm.
 Fig. 24. *Eurema venusta limbia* FELDER ♀, Barranquilla, 6. vi; FL: 19.0mm.
 Fig. 25. *Eurema leuce* BOISDUVAL ♂, San Isidro de la Sierra, 24. viii; FL: 21.3mm.
 Fig. 26. *Eurema leuce* BOISDUVAL ♀, Quebrada Cinto, 2. viii; FL: 20.2mm.
 Fig. 27. *Eurema दौरα eugenia* WALLENGREN ♂, near Juan Mina, 11. vi; FL: 17.6mm.
 Fig. 28. *Eurema दौरα eugenia* WALLENGREN ♀, near Juan Mina, 11. vi; FL: 16.6mm.
 Fig. 29. *Eurema elathea* CRAMER ♂, near Juan Mina, 14. vi; FL: 15.7mm.
 Fig. 30. *Eurema elathea* CRAMER ♀, near Juan Mina, 14. vi; FL: 14.6mm.



